

Application of: Roemer *et al.*

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For: IDENTIFICATION OF *CANDIDA*
ALBICANS ESSENTIAL FUNGAL
SPECIFIC GENES AND USE THEREOF
IN ANTIFUNGAL DRUG DISCOVERY

Attorney Docket No.: 10182-015-999

Appendix B: Pending Claims Upon Entry of the Preliminary Amendment

1. An isolated nucleic acid comprising a nucleotide sequence encoding any one of the amino acid sequences selected from the group consisting of SEQ ID NOs: 2, 4 and 6, or the full complement thereof.

2. An isolated nucleic acid comprising a nucleotide sequence that hybridizes under high stringency conditions over substantially the entire length of any isolated nucleic acid encoding an amino acid sequence selected from the group consisting of SEQ ID NOs: 2, 4 and 6, or the full complement thereof.

3. An isolated nucleic acid comprising a nucleic acid sequence having at least 70% identity over at least one sequence window of 48 nucleotides with any nucleotide sequence encoding an amino acid sequence selected from the group consisting of SEQ ID NOs: 2, 4 and 6, or the full complement thereof.

4. The isolated nucleic acid of claim 1, wherein the nucleotide sequence of is set forth in SEQ ID NO: 1.

5. The isolated nucleic acid of claim 1, wherein the nucleotide sequence is set forth in SEQ ID NO: 3.

6. The isolated nucleic acid of claim 1, wherein the nucleotide sequence is set forth in SEQ ID NO: 5.

7. A method of selecting a compound that modulates the activity of a protein comprising the amino acid sequence of SEQ ID NO: 2, said method comprising:

- a) incubating a candidate compound with said protein; and
- b) determining the activity of said protein in the presence of said candidate

compound,

wherein the compound is selected when the activity of said protein in the presence of said candidate compound is measurably different than in the absence thereof.

8. A method of selecting a compound that modulates the activity of a protein comprising the amino acid sequence of SEQ ID NO: 4, said method comprising:

- a) incubating a candidate compound with said protein; and
- b) determining the activity of said protein in the presence of said candidate

compound,

wherein the compound is selected when the activity of said protein in the presence of said candidate compound is measurably different than in the absence thereof.

9. A method of selecting a compound that modulates the activity of a protein comprising the amino acid sequence of SEQ ID NO: 6, said method comprising:

- a) incubating a candidate compound with said protein; and
- b) determining the activity of said protein in the presence of said candidate

compound,

wherein the compound is selected when the activity of said protein in the presence of said candidate compound is measurably different than in the absence thereof.

10. An isolated nucleic acid consisting of 10 to 50 nucleotides which specifically hybridizes to the nucleic acid of claim 1 under high stringency conditions, wherein said nucleotide sequence consists of at least 10 consecutive nucleotides from the nucleic acid sequence set forth in SEQ ID NOs: 1, 3 or 5, or b) is complementary to at least 10 consecutive nucleotides from the nucleic acid sequences set forth in SEQ ID NOs: 1, 3, or 5.

11. A method of detecting the nucleic acid of claim 4, 5, or 6 in a sample comprising:
 - a) contacting said sample with a nucleic acid according to claim 10, under conditions such that hybridization occurs; and
 - b) detecting the presence of said nucleic acid according to claim 10 bound to said nucleic acid, of claim 4, 5, or 6.
12. A purified polypeptide comprising an amino acid sequence as set forth in SEQ ID NO: 2 or an epitope-bearing portion thereof.
13. A purified polypeptide comprising an amino acid sequence as set forth in SEQ ID NO: 4 or an epitope-bearing portion thereof.
14. A purified polypeptide comprising an amino acid sequence as set forth in SEQ ID NO: 6 or an epitope-bearing portion thereof.
15. A purified polypeptide, comprising an amino acid sequence at least 35% identical over at least one sequence window of 18 amino acid residues to the amino acid sequence as set forth in SEQ ID NO: 2.
16. A purified polypeptide, comprising an amino acid sequence at least 35% identical over at least one sequence window of 18 amino acid residues to the amino acid sequence as set forth in SEQ ID NO: 4.
17. A purified polypeptide, comprising an amino acid sequence at least 35% identical over at least one sequence window of 18 amino acid residues to the amino acid sequence as set forth in SEQ ID NO: 6.
18. An antibody having specific binding affinity to the polypeptide or epitope-bearing portion thereof according to claim 12.

19. A method of screening for a compound having antifungal activity, said method comprising:

a) incubating a candidate compound with a protein comprising an amino acid sequence selected from the group consisting of SEQ ID NOs: 2, 4, and 6; and

b) determining one of the activity of said protein or of an assayable or observable property associated with a biological function of said protein in the presence of said candidate compound,

wherein a antifungal compound is selected when the activity or assayable or observable property of said protein in the presence of said candidate compound is measurably different than in the absence thereof.

20. The method of claim 19, wherein said antifungal activity is effective against a fungi selected from *Candida albicans*, *Aspergillus fumigatus*, *Aspergillus flavus*, *Aspergillus niger*, *Coccidioides immitis*, *Cryptococcus neoformans*, *Exophiala dermatitidis*, *Histoplasma capsulatum*, *Dermatophytes* spp., *Microsporium* spp., *Tricophyton* spp., *Phytophthora infestans*, and *Puccinia sorghi*.

24. The method of claim 19, wherein an *in vitro* assay is used.

25. The method of claim 19, wherein a cell-based assay is used.

26. An antibody having specific binding affinity to the polypeptide or epitope-bearing portion thereof according to claim 13.

27. An antibody having specific binding affinity to the polypeptide or epitope-bearing portion thereof according to claim 14.